

WHAT IS CLAIMED IS:

1. An active pixel sensor comprising:

a photoreceptor, wherein the photoreceptor comprises a pinned photodiode;

a frame shutter; and

an active pixel readout.

2. The active pixel sensor of Claim 1, wherein the frame shutter is a PMOS frame shutter in a N-well.

3. The active pixel sensor of Claim 2, wherein the frame shutter includes sample and hold and reset circuits.

4. The active pixel sensor of Claim 3, wherein the sample and hold and reset circuits comprise PMOS transistors.

5. The active pixel sensor of Claim 1, wherein the pinned photodiode increases the quantum efficiency.

6. The active pixel sensor of Claim 1, wherein the pinned photodiode reduces dark current.

7. An active pixel sensor comprising:

a photoreceptor;

a frame shutter, wherein the frame shutter is a PMOS frame shutter in a N-well; and

an active pixel readout.

8. The active pixel sensor of Claim 7, wherein the photoreceptor comprises a photodiode or a photogate.

9. The active pixel sensor of Claim 7, wherein the frame shutter includes sample and hold and reset circuits.

10. The active pixel sensor of Claim 9, wherein the sample and hold and reset circuits comprise NMOS transistors.

11. The active pixel sensor of Claim 7, wherein the PMOS frame shutter increases the fill factor.

12. The active pixel sensor of Claim 7, wherein the PMOS frame shutter reduces the pixel pitch.

13. An active pixel sensor comprising:

a photoreceptor, wherein the photoreceptor comprises a pinned photodiode;

a frame shutter, wherein the frame shutter comprises a NMOS frame shutter in a P-well; and

an active pixel readout.

14. The active pixel sensor of Claim 13, wherein the frame shutter includes sample and hold and reset circuits.
15. The active pixel sensor of Claim 14, wherein the sample and hold and reset circuits comprise NMOS transistors.
16. The active pixel sensor of Claim 13, wherein the pinned photodiode increases the quantum efficiency.
17. The active pixel sensor of Claim 13, wherein the pinned photodiode reduces dark current.
18. The active pixel sensor of Claim 13, wherein the PMOS frame shutter increases the fill factor.
19. The active pixel sensor of Claim 13, wherein the PMOS frame shutter reduces the pixel pitch.